

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
22 March 2001 (22.03.2001)

PCT

(10) International Publication Number  
**WO 01/19799 A2**

(51) International Patent Classification<sup>7</sup>: C07D 233/00

(21) International Application Number: PCT/JP00/06226

(22) International Filing Date:  
12 September 2000 (12.09.2000)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
11/259057 13 September 1999 (13.09.1999) JP  
11/260315 14 September 1999 (14.09.1999) JP

(71) Applicant (for all designated States except US): POLA  
CHEMICAL INDUSTRIES, INC. [JP/JP]; 6-48, Yayoi-  
cho, Shizuoka-shi, Shizuoka 420-0914 (JP).

(71) Applicants and

(72) Inventors: TAKAI, Yoshihiro [JP/JP]; 2-14, Nijino-oka  
3-chome, Izumi-ku, Sendai-shi, Miyagi 981-8007 (JP).  
IDO, Tatsuo [JP/JP]; 9-14, Miyagidai 3-chome, Aoba-ku,  
Sendai-shi, Miyagi 989-3214 (JP).

(72) Inventor; and

(75) Inventor/Applicant (for US only): TSUJITANI, Michi-  
hiko [JP/JP]; 12-1, Futaba 2-chome, Yokosuka-shi, Kana-  
gawa 239-0814 (JP).

(74) Agents: ARUGA, Mitsuyuki et al.; Kyodo Building, 3-6,  
Nihonbashiningyocho 1-chome, Chuo-ku, Tokyo 103-0013  
(JP).

(81) Designated States (national): AE, AG, AL, AM, AT, AU,  
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ,  
DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR,  
HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,  
LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ,  
NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM,  
TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

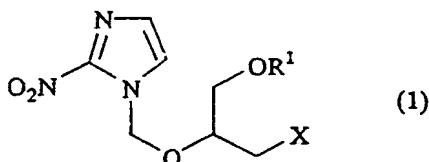
(84) Designated States (regional): ARIPO patent (GH, GM,  
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian  
patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European  
patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE,  
IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG,  
CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

**Published:**

— Without international search report and to be republished  
upon receipt of that report.

For two-letter codes and other abbreviations, refer to the "Guid-  
ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.

(54) Title: NITROIMIDAZOLE DERIVATIVE AND DIAGNOSTIC IMAGING AGENT CONTAINING THE SAME



(57) Abstract: A nitroimidazole derivative represented by formula (1): [wherein R<sup>1</sup> represents a hydrogen atom or a C1-C4 alk-  
nonyl group; and X represents a fluorine atom or an isotope thereof], and a diagnostic imaging agent containing the derivative as an  
active ingredient. The derivative enables imaging of the ischemic sites of a circulatory organ or imaging of cancer cells, and thus  
the derivative can provide information about the position and the amount of the ischemic sites or the cancer cells. Therefore, the  
derivative contributes to selection of appropriate treatment of ischemia or cancer.

WO 01/19799 A2